

Folate (Folic Acid)

What Is “Folate” or “Folic Acid?”

Folate and folic acid are different terms for the same B vitamin. Folate is the form of the vitamin found naturally in foods. Folic acid is the synthetic form that is added to fortified foods and used in vitamin supplements. The body absorbs synthetic folic acid better than the folate.

Folate or folic acid is necessary for proper cell growth in the body and for the development of the human embryo. It is important in the early development of the brain and spinal cord. Folic acid is required for the production of DNA, which is necessary for the cell growth that occurs with the development of fetal tissues and organs very early in pregnancy.

What Are the Consequences of Folate Deficiency?

Because of its relationship to DNA production and cell growth, adequate folate/folic acid intake is essential to all females of child-bearing age. Folic acid, when taken before conception and throughout the first trimester of pregnancy, has been proven to

reduce the risk of neural tube defects by 35% to 70%. Over 2,500 infants are born with a neural tube defect in the United States each year.

Most neural tube defects occur only three to four weeks after conception, when most women are unaware they are pregnant. Given the unplanned nature of teen pregnancies, it is especially important to encourage adequate intake for adolescent females.

How Much Folate or Folic Acid Is Enough?

Adolescents need more folate than adults due to their rapid growth and sexual maturation. The recommended amount of folate for individuals between the ages of 9 and 13 is 300 micrograms (mcg) or 0.3 milligrams (mg) per day. Individuals between the ages of 14 and 18 should get 400 mcg (0.4 mg) per day.

All females capable of becoming Pregnant - whether or not they are planning to - should get 400 micrograms of folic acid daily from fortified foods and/or supplement, in addition to eating folate-rich foods.

July 2000

Section 5

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Intervention/Referrals

Use the “Have You Had Your Folic Acid Today?” and “Tips For Folate” activity sheets to discuss with your client good sources of folate or folic acid, and how to include them in her daily food intake.

Use the “Food Labels and Folate/Folic Acid?” activity sheet to teach the client how to use the food label to find out how much folate or folic acid is in the food she eats.

Use the “Action Plan for Folate or Folic Acid” activity sheet to assist the client in developing her plan for behavior changes she is willing to make to achieve the recommendation for optimal folate/folic acid intake.

What Are Good Sources of Folate or Folic Acid?

Foods rich in folate include orange juice from concentrate, dark green, leafy vegetables (e.g., spinach, broccoli, asparagus, and romaine lettuce), beans, lentils, grains, and citrus and other fruits (e.g., kiwis and strawberries). Because folate is destroyed by the heat used in cooking and canning, adolescents should be encouraged to eat fresh fruits and vegetables.

The body can absorb almost 100% of folic acid (the form found in vitamin supplements and fortified cereals). The amount of folate (the form that occurs naturally in food) absorbed from individual foods varies; overall absorption from food is estimated to be 50% of the folate available in an individual's diet. It is important to consume a variety of folate-rich foods every day-

(especially women of childbearing age) to obtain the amount of folic acid recommended to prevent neural tube defects. Almost all over-the-counter multivitamins contain 400 micrograms (0.4 mg) of folic acid, the amount recommended for the prevention of neural tube birth defects. For those who cannot or do not wish to take a vitamin supplement in pill form, breakfast cereals that contain 100% of the recommended daily amount of folic acid in one serving provide 400 micrograms (0.4 mg) of folic acid.

Multivitamins cannot, however, substitute for a diet that includes foods such as fruits, vegetables, whole grains, and beans. A vitamin supplement can provide enough folic acid, but the other benefits (fiber, vitamins, and minerals) from eating food rich in folate will be lost.

Additional Screening

Use the “How Much Folate Am I Getting?” Activity sheet to help the client determine how much folate she is getting from her diet. You can use the food replicas to help her with portion sizes.

Follow-Up

Review action plan with the client to determine if client has achieved her goal(s) for behavior change.

If the client did not make any changes...

...Explore what barriers prevented them from doing so and discuss possible strategies for removing the barriers.

If the client made changes but still falls short of recommended intake...

...Revise action plan with the client to change or add goals for behavior change.

If the client has made changes and achieved the recommended intake...

...Help the client develop a new action plan for maintaining the new behavior.



What About Folate Supplements?

A folic acid supplement may be necessary for some people

HAVE YOU HAD YOUR, FOLIC ACID TODAY?

All females who can become pregnant, whether or not they are planning to, should get 400 micrograms of folic acid daily to prevent certain types of birth defects. This can be done by eating fortified foods and/or by taking a supplement. The following cereals contain 100% of the recommended daily amount of folate.

General Mills -

Multi-Grain Cheerios
Total Brown Sugar and Oat
Total Corn Flakes
Total Raisin Bran
Whole Grain Total

Quaker Oats -

Crunchy Bran
Crunchy Corn Bran
Life, regular and cinnamon
Quaker Honey Nut Oats
Quaker Oat Bran
Quaker Oatmeal Squares,
regular and cinnamon
Quaker Toasted Oatmeal,
regular and honey nut
Quaker Toasted Oats Sun
Country Oats with Iron

Kelloggs

All-Bran Original, Extra Fiber, and Brad Buds
Complete Oat Bran and Wheat Bran Flakes
Crispix
Healthy Choice Almond Crunch with Raisins
Healthy Choice Low-Fat Granola (with/without raisins)
Healthy Choice Mueslix
Healthy Choice Toasted Brown Sugar Squares
Just Right Fruit and Nut
Product 19
Smart Start
Special K and Special K Plus

Other Sources of Folate -

- Multivitamin tablets and folic acid supplements (most supply 100% of the daily value for folate)
- Prenatal vitamins (some have 800 micrograms of folate; the symbol for micrograms is ug or µg)
- Food that are naturally rich in folate: lentils, black and pinto beans, orange juice, asparagus, artichokes, and spinach

More Folate Tips!

- Eat dried beans several times a week. Serve them as a main dish or add them to soups, salads, and casseroles.
- Eat fruits and vegetables raw. Add fresh vegetables such as spinach, broccoli, or romaine lettuce to tossed salad.
- When you cook vegetables, steam them or cook them in a small amount of water.

Do not overcook them!

- Eat five or more servings of fruits and vegetables every day.
- Drink orange juice every day or several times a week.

Food Labels and Folic Acid

Sample Cereal Label

Serving Size	1/2 cup (52 g)	
Servings per container	8	
Amount per Serving	Cereal	With 1/2 cup fat-free milk
Calories	200	240
Calories from fat	25	25
	% Daily Value	% Daily Value
Total Fat 3g	4%	4%
Saturated Fat 0.5g	3%	3%
Cholesterol 0mg	0%	0%
Sodium 240mg	10%	13%
Potassium 200mg	6%	11%
Total Carbohydrate 43g	14%	16%
Dietary Fiber 5g	20%	20%
Sugars 15g		
Other Carbohydrate 23g		
Protein 4g		
Vitamin A	25%	30%
Vitamin C	0%	2%
Iron	25%	25%
Vitamin b	10%	25%
Thiamin	25%	25%
Riboflavin	25%	35%
Niacin	25%	25%
Vitamin B6	25%	25%
Vitamin B12	25%	35%
Folic Acid	100%	100%
Phosphorus	15%	25%
Magnesium	15%	20%
Zinc	10%	15%

It's important to know how to read a food label so you know what you are eating.

> If you ate one serving of this cereal for breakfast this morning. Would you get all of the folic acid you need for the day?

Yes

No

> If you ate a half cup of this cereal, how much folic acid would you have eaten

____% of daily value

> How much of this cereal would you need to eat to _get 100% of the daily recommended value for folate?

____cup(s)

Buy foods that have folic acid on the nutrition label. Folic acid may be added (fortified) to cereal, bread rice, flour, grits, corn meal, farina, and pasta. Look on the label because some foods - like cereals - have all the folate you need for one day in one serving (usually just a 1/2 cup), while others may have only 25% of your need for the day serving.

ACTION PLAN for FOLATE

Name: _____ Date: _____

Check the boxes that describe what you are presently doing and what you plan to do:

AM DOING

PLAN TO DO

Add one serving of vegetables such as broccoli, spinach, asparagus, or romaine lettuce to my diet most days of the week.

Try a breakfast cereal that contains 100% of my daily folic acid requirement.

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Drink orange juice on most days of the week.

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Add one serving of raw/frozen fruits such as bananas, kiwi fruit, mangos, papaya, oranges, cantaloupe, avocados, tangerines, pineapple, raspberries, and strawberries to my diet most days of the week.

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Along with eating folate-rich foods, I *will* take a vitamins/mineral supplement times per week.

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Add one serving of black beans, pinto beans, or garbanzo beans or lentils to my diet most days of the week.

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My ideas for improving my folate intake:

Signature: _____ Date: _____

(optional)

